

WHAT IS CLAIMED IS:

1. A template to form a recorded pattern on a substrate from a conformable material disposed between said template and said substrate, with said recorded pattern having recorded features with designed dimensions; said template comprising:

an original pattern having original features with original dimensions, with said original dimensions differing from said designed dimensions sufficient to compensate for volumetric changes of said conformable material that occurs upon said conformable material transitioning between first and second states.

2. The template as recited in claim 1 wherein said first state comprises a liquid state and said second state comprises a solid state.

3. The template as recited in claim 1 wherein said original pattern comprises a plurality of protrusions and recessions, with a set of said plurality of protrusions and recessions having angled profiles.

4. The template as recited in claim 1 wherein said original pattern is formed on a surface of said template, with said original pattern comprising a plurality of protrusions and recessions, with a set of said plurality of protrusions and recessions having a width that varies in a direction normal to said surface.

5. The template as recited in claim 1 wherein said volumetric changes further a volumetric expansion of said conformable material.

6. The template as recited in claim 1 wherein said volumetric changes includes a volumetric contraction of said conformable material.

7. The template as recited in claim 1 wherein said original pattern comprises a profile selected from the group consisting of recessed and protruded, smooth, and planarized profiles.

8. The template as recited in claim 1 wherein said template comprises silicon, silicon dioxide, silicon germanium carbon, gallium nitride, silicon germanium, sapphire, gallium arsenide, epitaxial silicon, polysilicon, gate oxide, quartz, or a combination thereof.

9. A template to pattern recorded features on a substrate from a conformable material disposed between said template and said substrate, with said recorded features having designed dimensions; said template comprising:

original features having original dimensions, with said original dimensions differing from said designed dimensions sufficient to compensate for volumetric changes of said conformable material that occurs upon said conformable material transitioning between first and second states.

10. The template as recited in claim 9 wherein said first state comprises a liquid state and said second state comprises a solid state.

11. The template as recited in claim 10 wherein said original features comprises a plurality of protrusions and recessions, with a set of said plurality of protrusions and recessions having angled profiles.

12. The template as recited in claim 11 wherein said original features is formed on a surface of said template, with said original features comprising a plurality of protrusions and recessions, with a set of said plurality of protrusions and recessions having a width that varies in a direction normal to said surface.

13. The template as recited in claim 12 wherein said volumetric changes includes a volumetric expansion of said conformable material.

14. The template as recited in claim 13 wherein said volumetric changes includes a volumetric contraction of said conformable material.

15. The template as recited in claim 14 wherein said original features comprises a profile selected from the group consisting of recessed and protruded, smooth, and planarized profiles.

16. The template as recited in claim 15 wherein said template comprises silicon, silicon dioxide, silicon

germanium carbon, gallium nitride, silicon germanium, sapphire, gallium arsinide, epitaxial silicon, polysilicon, gate oxide, quartz, or a combination thereof.

17. A template to form a recorded pattern on a substrate from a conformable material disposed between said template and said substrate, with said recorded pattern having recorded features with designed dimensions; said template comprising:

an original pattern having original dimensions, said recorded pattern having first dimensions in a first phase state and second dimensions in a second phase state differing from said first dimensions, with said first dimensions being established to compensate for volumetric changes of said conformable material between said first and second phase states to form said second dimensions, with said second dimensions being substantially the same as said designed dimensions.

18. The template as recited in claim 17 wherein said first state comprises a liquid state and said second state comprises a solid state.

19. The template as recited in claim 17 wherein said original pattern comprises a plurality of protrusions and recessions, with a set of said plurality of protrusions and recessions having angled profiles.

20. The template as recited in claim 17 wherein said original pattern is formed on a surface of said template, with said original pattern comprising a plurality of

protrusions and recessions, with a set of said plurality of protrusions and recessions having a width that varies in a direction normal to said surface.